

CLAIM AMENDMENTS:

1. (Currently amended) A method for producing recycled pulp ~~characterized in that~~
which comprises: generating bubbles ~~are generated~~ by cavitation using a ~~fluid~~ liquid jet and
bringing said bubbles into contact ~~contacted~~ with a pulp suspension to strip a contaminant
deposited on pulp fibers and inorganic particles during the process of recycling waste paper,
wherein a pressure of jetting liquid (upstream pressure) is 2 MPa or more.

2. (Currently amended) The method for producing recycled pulp of claim 1
characterized in that said bubbles generated by cavitation using a ~~fluid~~ liquid jet are on the
order of 1 μ m to 1mm.

3. (Currently Amended) The method for producing recycled pulp of claim 1
characterized in that the pulp suspension and bubbles are contacted by emitting the pulp
suspension as a ~~fluid~~ liquid jet.

4. (Previously presented) The method for producing recycled pulp of claim 1 wherein
the contaminant is ink.

5. (Currently amended) [[A]] The method for producing recycled pulp of claim 1,
wherein said process of recycling waste paper comprises ~~characterized in that bubbles are~~
~~generated by cavitation and contacted with a pulp suspension to strip and separate a~~
~~contaminant deposited on pulp fibers and inorganic particles in any one or more steps of the~~
~~process of recycling waste paper comprising the step of stripping ink by cavitation and the~~
~~subsequent step of removing ink by flotation and/or washing~~ at least one of the steps of
stripping ink, flotation, or removing ink.

Claim 6 (Cancelled)

7. (Currently Amended) The method for producing recycled pulp of claim 1 wherein cavitation is generated by emitting a jetting liquid via a nozzle or an orifice tube and the pressure of the jetting liquid (upstream pressure) is ~~0.01 MPa or more and~~ 30 MPa or less, as a gauge pressure.

8. (Previously presented) The method for producing recycled pulp of claim 1 wherein cavitation is generated by emitting a jetting liquid via a nozzle or an orifice tube and the jet flow rate of the jetting liquid is 1 m/sec or more and 200 m/sec or less.

Claims 9-10 (Cancelled)

11. (Currently amended) A method for modifying pulp fiber surfaces and dirts or stripping dirts deposited on pulp fiber surfaces without damaging pulp fibers by means of the collapse pressure of bubbles of cavitation generated using a ~~fluid~~ liquid jet by emitting a pressurized jetting liquid to a material comprising pulp fibers in a vessel, wherein said pressurized jetting liquid is emitted at a pressure (upstream pressure) of 2 MPa or more.

12. (Currently amended) ~~[[A]] The method of claim 11, wherein for modifying pulp fiber surfaces and dirts or stripping dirts deposited on pulp fiber surfaces without damaging fibers by means of the collapse pressure of bubbles of cavitation generated using a fluid jet by emitting an aqueous slurry containing pulp cellulose is used as [[a]] said pressurized jetting liquid to a material comprising pulp fibers in a vessel.~~

13. (Currently Amended) The method of claim 11 characterized in that the jetting liquid for generating cavitation is emitted via a nozzle into a vessel having a material comprising pulp fibers and the pressure of the jetting liquid (nozzle upstream pressure) is ~~0.5 MPa or more and~~ 30 MPa or less and the pressure in the vessel in which pulp cellulose is treated (nozzle downstream pressure) is 0.05 MPa or more and 0.3 MPa or less, and the ratio of the pressure in the vessel to the pressure of the jetting liquid is 0.001 - 0.5, said pressures being gauge pressures.

14. (Previously presented) The method of claim 11 wherein the consistency of the material comprising pulp fibers in the vessel is 0.01 - 20% by weight.

15. (Previously presented) A pulp processing equipment comprising a vessel; one or more nozzles for emitting a pressurized jetting liquid to a material comprising pulp fibers present in the vessel; a pressure control mechanism located upstream of the nozzle to control the discharge pressure of the nozzle; a baffle plate positioned in the vessel to regulate a flow from the nozzle to a vessel outlet; and a pump located upstream of the pressure control mechanism to apply a discharge pressure on the nozzle, wherein said pressure control mechanism includes one or both of a pressure detection mechanism and an outlet flow rate control mechanism.

16. (Previously presented) The pulp processing equipment of claim 15 wherein the vessel has a form selected from the group consisting of closed, non-closed, batch or continuous type.

17. (Previously presented) The pulp processing equipment of claim 16 wherein the vessel is a closed type vessel capable of controlling pressure and has a mechanism controlling the pressure in the vessel while discharging liquid from the vessel as appropriate.

18. (Previously presented) The pulp processing equipment of claim 17 wherein the vessel has a liquid inlet other than the nozzle.

19. (Previously presented) The pulp processing equipment of claim 15 characterized in that the inner wall of the vessel to which the nozzle is fixed is cone-shaped, whereby the pulp suspension is homogeneously agitated by dynamic vortex.

20. (Previously presented) The pulp processing equipment of claim 17 characterized in that it has a liquid channel returning liquid to the vessel from downstream of the liquid channel connected to the liquid outlet of the vessel through a separating means.

21. (Previously presented) The pulp processing equipment of claim 17 characterized in that the liquid channel connected to the liquid outlet is a two- or more forked liquid channel and at least one of the forks is connected to the nozzle in the vessel via the separating means so that liquid can be jetted into the vessel again.

22. (Previously presented) The pulp processing equipment of claim 16 characterized in that it has a mechanism for maintaining the liquid entering the vessel and the liquid exiting it at the same amount to keep the level of liquid present in the vessel constant.

23. (Previously presented) The pulp processing equipment of claim 20 characterized in that the separating means is any one of a flotator, washer, screen or cleaner.

24. (Previously presented) The pulp processing equipment of claim 15 characterized in that the vessel is any one of a flotator, washer, screen or cleaner.

25. (Previously presented) The method for producing recycled pulp of claim 1, wherein said bubbles come into contact with pulp fiber material of said pulp suspension.

26. (Previously presented) The method for producing recycled pulp of claim 11, wherein said bubbles come into contact with pulp fibers of said material comprising pulp fibers.

27. (Previously presented) The method for producing recycled pulp of claim 1 wherein the condition in which a jetting liquid is emitted to generate cavitation is represented by a cavitation number σ in the range of 0.001 or more and 0.5 or less expressed by equation:
$$\sigma = p_2/p_1$$
where p_1 : nozzle upstream pressure, p_2 : nozzle downstream pressure, wherein p_1 and p_2 are gauge pressures.

28. (New) The method of claim 1, wherein liquid from the liquid jet consists essentially of distilled water, tap water or industrial water.

29. (New) The method of claim 11, wherein liquid from the liquid jet consists essentially of distilled water, tap water or industrial water.

30. (New) The pulp processing equipment of claim 15, wherein said baffle plate is positioned upstream from said one or more nozzles.